

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of operation within a data processing system, the method comprising:
before receiving a request to execute a first function, registering an association between the first function and a second function that returns data type information for the first function;
receiving a request to execute ~~[[a]]~~ the first function to return data from a source, ~~wherein the first function is able to return data with different organization and data types from more than one source;~~
in response to receiving ~~the said first request to execute the first function,~~ performing the steps of:
executing ~~[[a]]~~ the second function to obtain the data type information that specifies one or more data types of result data that should be returned for the first function; ~~from said source organization and data type information describing data to be returned from said source by the first function,~~
registering the ~~organization and data type information; describing the data to be returned from said source,~~
executing ~~said~~ the first function ~~against said source~~ to obtain the result data~~[[,]]~~;
storing the result data obtained from the source in a format that reflects the said organization and data type information from the second function;~~[[,]]~~ and
returning the result data as data having the one or more data types.
- 2-3. (Canceled)
4. (Currently Amended) The method of claim 1 ~~wherein~~ further comprising determining that ~~said~~ the source is associated with ~~said~~ the request ~~comprises~~ by determining whether a certain keyword is specified as a data return type for the first function.

5. (Currently Amended) The method of claim 1 ~~wherein~~ further comprising determining that ~~said the~~ source is associated with ~~said the~~ request ~~comprises~~ by determining whether the first function returns data in an array of data elements.
- 6-8. (Canceled)
9. (Currently Amended) The method of claim 1 wherein the ~~organization and~~ data type information indicates an arrangement of rows and columns of a database table and wherein storing the result data obtained from the source in a format that reflects the data type information ~~organizing the result data according to the organization and data type information~~ comprises tabulating the result data according to the arrangement of rows and columns.
- 10-15. (Canceled)
16. (Currently Amended) A system comprising:
a processing entity; and
a memory coupled to the processing entity and having program code stored therein which,
when executed by the processing entity, causes the processing entity to:
before receiving a request to execute a first function, register an association between the first function and a second function that returns data type information for the first function;
receive a request to execute ~~[[a]]~~ the first function included in the program code to return data from a source, ~~wherein the first function is able to return data with different organization and data types from more than one source;~~
in response to receiving ~~the said first request to execute the first function,~~ performing the steps of:
executing~~[[e]]~~ [[a]] the second function to obtain data type information that specifies one or more data types of result data that should be returned for the first function; ~~from said source, organization and data type~~

~~information describing data to be returned from said source by the first function,~~
registering the ~~organization and data type information; describing the data to be returned from said source,~~
executing ~~said the~~ first function ~~against said source~~ to ~~the~~ obtain result data,
storing the result data obtained from the source in a format that reflects ~~said organization and the data type information from the second function;~~ and
returning the result data as data having the one or more data types.

17-21. (Canceled)

22. (Currently Amended) A computer-readable medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to:
- before receiving a request to execute a first function, register an association between the first function and a second function that returns data type information for the first function;
- receive a request to execute ~~[[a]]~~ the first function to return data from a source, ~~wherein the first function is able to return data with different organization and data types from more than one source;~~
- in response to receiving ~~the said first request to execute the first function,~~ performing the steps of:
- executing~~[[e]]~~ ~~[[a]]~~ the second function to obtain data type information that specifies one or more data types of result data that should be returned for the first function; ~~from said source, organization and data type information describing data to be returned from said source by the first function,~~
- registering the ~~organization and data type information; describing the data to be returned from said source,~~
- executing ~~said the~~ first function ~~against said source~~ to obtain the result data,

storing the result data obtained from the source in a format that reflects ~~said~~
~~organization and~~ the data type information from the second function; and
returning the result data as data having the one or more data types.

23-24. (Canceled)

25. (Currently Amended) The method of claim 1 wherein the registered ~~organization and~~ data type information is used to type-check the first function.

26. (Currently Amended) The computer readable medium of claim 22 ~~wherein further~~ comprising determining that ~~said the~~ source is associated with ~~said the~~ request ~~comprises~~ by determining whether a certain keyword is specified as a data return type for the first function.

27. (Currently Amended) The computer readable medium of claim 22 ~~wherein further~~ comprising determining that ~~said the~~ source is associated with ~~said the~~ request ~~comprises~~ by determining whether the first function returns data in an array of data elements.

28. (Currently Amended) The computer readable medium of claim 22 wherein the ~~organization and~~ data type information indicates an arrangement of rows and columns of a database table and wherein storing the result data obtained from the source in a format that reflects the data type information ~~organizing the result data according to the organization and data type information~~ comprises tabulating the result data according to the arrangement of rows and columns.

29. (Canceled)

30. (Currently Amended) The computer readable medium of claim 22 wherein the registered ~~organization and~~ data type information is used to type-check the first function.

31-34. (Canceled)